A. Kubelik ● ● #14

1638

RAW SEQUENCE LISTING   DATE: 07/05/2001
PATENT APPLICATION: **US/09/297,703A**   TIME: 10:07:42

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**   ENTERED

```
   1 <110> APPLICANT: (A) Jobling, Stephen Alan
   2       (B) Safford, Richard
   4 <120> TITLE OF INVENTION: Improvements in or Relating to Starch Content of Plants
   6 <130> FILE REFERENCE: Case 1637
   8 <140> CURRENT APPLICATION NUMBER: US 09/297,703A
  10 <141> CURRENT FILING DATE: 1999-07-19
  12 <150> PRIOR APPLICATION NUMBER: PCT/GB97/03032
  14 <151> PRIOR FILING DATE: 1997-11-04
  16 <160> NUMBER OF SEQ ID NOS: 36
  18 <170> SOFTWARE: Microsoft WORD 97
  20 <210> SEQ ID NO: 1
  22 <211> LENGTH: 20
  24 <212> TYPE: DNA
  26 <213> ORGANISM: Manihot, esculenta
  28 <300> PUBLICATION INFORMATION:
W--> 30 <310> PATENT DOC NO: WO 98/20145
  32 <312> PUBLICATION DATE: 1998-05-14
  34 <400> SEQUENCE: 1
  35 atggacaagg atatgtatga                                    20
  37 <210> SEQ ID NO: 2
  39 <211> LENGTH: 20
  41 <212> TYPE: DNA
  43 <213> ORGANISM: Manihot, esculenta
  45 <300> PUBLICATION INFORMATION:
W--> 47 <310> PATENT DOC NO: WO 98/20145
  49 <312> PUBLICATION DATE: 1998-05-14
W--> 50 <400> SEQUENCE: 2
  51 ggtttcatga cttctgagca                                    20
  53 <210> SEQ ID NO: 3
  55 <211> LENGTH: 20
  57 <212> TYPE: DNA
  59 <213> ORGANISM: Manihot, esculenta
  61 <300> PUBLICATION INFORMATION:
W--> 63 <310> PATENT DOC NO: WO 98/20145
  65 <312> PUBLICATION DATE: 1998-05-14
  67 <400> SEQUENCE: 3
  68 tgctcagaag tcatgaaacc                                    20
  70 <210> SEQ ID NO: 4
  72 <211> LENGTH: 20
  74 <212> TYPE: DNA
  76 <213> ORGANISM: Manihot, esculenta
  78 <300> PUBLICATION INFORMATION:
W--> 80 <310> PATENT DOC NO: WO 98/20145
  82 <312> PUBLICATION DATE: 1998-05-14
  84 <400> SEQUENCE: 4
  85 tccagtctca atatacgtcg                                    20
  87 <210> SEQ ID NO: 5
```

RAW SEQUENCE LISTING   DATE: 07/05/2001
PATENT APPLICATION: **US/09/297,703A**   TIME: 10:07:42

Input Set : **A:\SEQ**.txt
Output Set: **N:\CRF3\07052001\I297703A.raw**

```
         89 <211> LENGTH: 20
         91 <212> TYPE: DNA
         93 <213> ORGANISM: Manihot, esculenta
         95 <300> PUBLICATION INFORMATION:
W-->     97 <310> PATENT DOC NO: WO 98/20145
         99 <312> PUBLICATION DATE: 1998-05-14
        101 <400> SEQUENCE: 5
        102 aggagtagat ggtctgtcga                                    20
        104 <210> SEQ ID NO: 6
        106 <211> LENGTH: 20
        108 <212> TYPE: DNA
        110 <213> ORGANISM: Manihot, esculenta
        112 <300> PUBLICATION INFORMATION:
W-->    114 <310> PATENT DOC NO: WO 98/20145
        116 <312> PUBLICATION DATE: 1998-05-14
        118 <400> SEQUENCE: 6
        119 tcatacatat ccttgtccat                                    20
        121 <210> SEQ ID NO: 7
        123 <211> LENGTH: 20
        125 <212> TYPE: DNA
        127 <213> ORGANISM: Manihot, esculenta
        129 <300> PUBLICATION INFORMATION:
W-->    131 <310> PATENT DOC NO: WO 98/20145
        133 <312> PUBLICATION DATE: 1998-05-14
        135 <400> SEQUENCE: 7
        136 gggtgacttc aatgatgtac                                    20
        138 <210> SEQ ID NO: 8
        140 <211> LENGTH: 20
        142 <212> TYPE: DNA
        144 <213> ORGANISM: Manihot, esculenta
        146 <300> PUBLICATION INFORMATION:
W-->    148 <310> PATENT DOC NO: WO 98/20145
        150 <312> PUBLICATION DATE: 1998-05-14
        152 <400> SEQUENCE: 8
        153 ggtgtacatc attgaagtca                                    20
        155 <210> SEQ ID NO: 9
        157 <211> LENGTH: 20
        159 <212> TYPE: DNA
        161 <213> ORGANISM: Manihot, esculenta
        163 <300> PUBLICATION INFORMATION:
W-->    165 <310> PATENT DOC NO: WO 98/20145
        167 <312> PUBLICATION DATE: 1998-05-14
        169 <400> SEQUENCE: 9
        170 aattactggc tccgtactac                                    20
        172 <210> SEQ ID NO: 10
        174 <211> LENGTH: 20
        176 <212> TYPE: DNA
        178 <213> ORGANISM: Manihot, esculenta
        180 <300> PUBLICATION INFORMATION:
```

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/09/297,703A**

DATE: 07/05/2001
TIME: 10:07:42

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**

W--> **182 <310> PATENT DOC NO: WO 98/20145**
184 <312> PUBLICATION DATE: 1998-05-14
186 <400> SEQUENCE: 10
187 cattccaacg tgcgactcat   20
189 <210> SEQ ID NO: 11
191 <211> LENGTH: 20
193 <212> TYPE: DNA
195 <213> ORGANISM: Manihot, esculenta
197 <300> PUBLICATION INFORMATION:
W--> **199 <310> PATENT DOC NO: WO 98/20145**
201 <312> PUBLICATION DATE: 1998-05-14
203 <400> SEQUENCE: 11
204 taccggtaat ctaggtgttg   20
206 <210> SEQ ID NO: 12
208 <211> LENGTH: 20
210 <212> TYPE: DNA
212 <213> ORGANISM: Manihot, esculenta
214 <300> PUBLICATION INFORMATION:
W--> **216 <310> PATENT DOC NO: WO 98/20145**
218 <312> PUBLICATION DATE: 1998-05-14
220 <400> SEQUENCE: 12
221 ggaccttggt ttagatccaa   20
223 <210> SEQ ID NO: 13
225 <211> LENGTH: 20
227 <212> TYPE: DNA
229 <213> ORGANISM: Manihot, esculenta
231 <300> PUBLICATION INFORMATION:
W--> **233 <310> PATENT DOC NO: WO 98/20145**
235 <312> PUBLICATION DATE: 1998-05-14
237 <400> SEQUENCE: 13
238 atgagtcgca cgttggaatg   20
240 <210> SEQ ID NO: 14
242 <211> LENGTH: 20
244 <212> TYPE: DNA
246 <213> ORGANISM: Manihot, esculenta
248 <300> PUBLICATION INFORMATION:
W--> **250 <310> PATENT DOC NO: WO 98/20145**
252 <312> PUBLICATION DATE: 1998-05-14
254 <400> SEQUENCE: 14
255 caacacctag attaccggta   20
257 <210> SEQ ID NO: 15
259 <211> LENGTH: 20
261 <212> TYPE: DNA
263 <213> ORGANISM: Manihot, esculenta
265 <300> PUBLICATION INFORMATION:
W--> **267 <310> PATENT DOC NO: WO 98/20145**
269 <312> PUBLICATION DATE: 1998-05-14
271 <400> SEQUENCE: 15
272 ttagttgcgt cagttctcac   20

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/09/297,703A**

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**

```
      274 <210> SEQ ID NO: 16
      276 <211> LENGTH: 20
      278 <212> TYPE: DNA
      280 <213> ORGANISM: Manihot, esculenta
      282 <300> PUBLICATION INFORMATION:
W-->  284 <310> PATENT DOC NO: WO 98/20145
      286 <312> PUBLICATION DATE: 1998-05-14
      288 <400> SEQUENCE: 16                                    20
      289 aatatctatc tcagccggag
      291 <210> SEQ ID NO: 17
      293 <211> LENGTH: 20
      295 <212> TYPE: DNA
      297 <213> ORGANISM: Manihot, esculenta
      299 <300> PUBLICATION INFORMATION:
W-->  301 <310> PATENT DOC NO: WO 98/20145
      303 <312> PUBLICATION DATE: 1998-05-14
      305 <400> SEQUENCE: 17                                    20
      306 atcttagata gtctgcatca
      308 <210> SEQ ID NO: 18
      310 <211> LENGTH: 20
      312 <212> TYPE: DNA
      314 <213> ORGANISM: Manihot, esculenta
      316 <300> PUBLICATION INFORMATION:
W-->  318 <310> PATENT DOC NO: WO 98/20145
      320 <312> PUBLICATION DATE: 1998-05-14
      322 <400> SEQUENCE: 18                                    20
      323 tggttgttcc ctggaattac
      325 <210> SEQ ID NO: 19
      327 <211> LENGTH: 20
      329 <212> TYPE: DNA
      331 <213> ORGANISM: Manihot, esculenta
      333 <300> PUBLICATION INFORMATION:
W-->  335 <310> PATENT DOC NO: WO 98/20145
      337 <312> PUBLICATION DATE: 1998-05-14
      339 <400> SEQUENCE: 19                                    20
      340 tgcaaggacc gtgacatcaa
      342 <210> SEQ ID NO: 20
      344 <211> LENGTH: 20
      346 <212> TYPE: DNA
      348 <213> ORGANISM: Manihot, esculenta
      350 <300> PUBLICATION INFORMATION:
W-->  352 <310> PATENT DOC NO: WO 98/20145
      354 <312> PUBLICATION DATE: 1998-05-14
      356 <400> SEQUENCE: 20                                    20
      357 ctttatctat taaagacttc
      359 <210> SEQ ID NO: 21
      361 <211> LENGTH: 20
      363 <212> TYPE: DNA
      365 <213> ORGANISM: Manihot, esculenta
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/297,703A

Input Set : A:\SEQ.txt
Output Set: N:\CRF3\07052001\I297703A.raw

```
          367 <300> PUBLICATION INFORMATION:
W-->  369 <310> PATENT DOC NO: WO 98/20145
          371 <312> PUBLICATION DATE: 1998-05-14
          373 <400> SEQUENCE: 21                                    20
          374 caaaaaagtt tgtgacatgg
          376 <210> SEQ ID NO: 22
          378 <211> LENGTH: 20
          380 <212> TYPE: DNA
          382 <213> ORGANISM: Manihot, esculenta
          384 <300> PUBLICATION INFORMATION:
W-->  386 <310> PATENT DOC NO: WO 98/20145
          388 <312> PUBLICATION DATE: 1998-05-14
          390 <400> SEQUENCE: 22                                    20
          391 tcactttttc caatgctaat
          393 <210> SEQ ID NO: 23
          395 <211> LENGTH: 20
          397 <212> TYPE: DNA
          399 <213> ORGANISM: Manihot, esculenta
          401 <300> PUBLICATION INFORMATION:
W-->  403 <310> PATENT DOC NO: WO 98/20145
          405 <312> PUBLICATION DATE: 1998-05-14
          407 <400> SEQUENCE: 23                                    20
          408 tctcatgcaa tggaaccgac
          410 <210> SEQ ID NO: 24
          412 <211> LENGTH: 20
          414 <212> TYPE: DNA
          416 <213> ORGANISM: Manihot, esculenta
          418 <300> PUBLICATION INFORMATION:
          420 <400> SEQUENCE: 24                                    20
          421 cagatgtcct gactcggaat
          423 <210> SEQ ID NO: 25
          425 <211> LENGTH: 20
          427 <212> TYPE: DNA
          429 <213> ORGANISM: Manihot, esculenta
          431 <300> PUBLICATION INFORMATION:
W-->  433 <310> PATENT DOC NO: WO 98/20145
          435 <312> PUBLICATION DATE: 1998-05-14
          437 <400> SEQUENCE: 25                                    20
          438 attccgagtc aggacatctg
          440 <210> SEQ ID NO: 26
          442 <211> LENGTH: 20
          444 <212> TYPE: DNA
          446 <213> ORGANISM: Manihot, esculenta
          448 <300> PUBLICATION INFORMATION:
W-->  450 <310> PATENT DOC NO: WO 98/20145
          452 <312> PUBLICATION DATE: 1998-05-14
          454 <400> SEQUENCE: 26                                    20
          455 cgcatttctc gctattgctt
          457 <210> SEQ ID NO: 27
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/297,703A**

DATE: 07/05/2001
TIME: 10:07:43

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**

```
L:30 M:284 W: Blank Line not Allowed, <310> field identifier
L:47 M:284 W: Blank Line not Allowed, <310> field identifier
L:50 M:283 W: Missing Blank Line separator, <400> field identifier
L:63 M:284 W: Blank Line not Allowed, <310> field identifier
L:80 M:284 W: Blank Line not Allowed, <310> field identifier
L:97 M:284 W: Blank Line not Allowed, <310> field identifier
L:114 M:284 W: Blank Line not Allowed, <310> field identifier
L:131 M:284 W: Blank Line not Allowed, <310> field identifier
L:148 M:284 W: Blank Line not Allowed, <310> field identifier
L:165 M:284 W: Blank Line not Allowed, <310> field identifier
L:182 M:284 W: Blank Line not Allowed, <310> field identifier
L:199 M:284 W: Blank Line not Allowed, <310> field identifier
L:216 M:284 W: Blank Line not Allowed, <310> field identifier
L:233 M:284 W: Blank Line not Allowed, <310> field identifier
L:250 M:284 W: Blank Line not Allowed, <310> field identifier
L:267 M:284 W: Blank Line not Allowed, <310> field identifier
L:284 M:284 W: Blank Line not Allowed, <310> field identifier
L:301 M:284 W: Blank Line not Allowed, <310> field identifier
L:318 M:284 W: Blank Line not Allowed, <310> field identifier
L:335 M:284 W: Blank Line not Allowed, <310> field identifier
L:352 M:284 W: Blank Line not Allowed, <310> field identifier
L:369 M:284 W: Blank Line not Allowed, <310> field identifier
L:386 M:284 W: Blank Line not Allowed, <310> field identifier
L:403 M:284 W: Blank Line not Allowed, <310> field identifier
L:433 M:284 W: Blank Line not Allowed, <310> field identifier
L:450 M:284 W: Blank Line not Allowed, <310> field identifier
L:467 M:284 W: Blank Line not Allowed, <310> field identifier
L:490 M:284 W: Blank Line not Allowed, <310> field identifier
L:732 M:284 W: Blank Line not Allowed, <310> field identifier
L:912 M:284 W: Blank Line not Allowed, <310> field identifier
L:923 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:927 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:931 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:935 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:939 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:943 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:947 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:951 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:955 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:959 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:963 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:967 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:971 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:975 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:979 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:983 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:987 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:991 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
```

VERIFICATION SUMMARY
PATENT APPLICATION: **US/09/297,703A**

DATE: 07/05/2001
TIME: 10:07:43

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**

```
L:995 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:999 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1003 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1007 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1011 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1015 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1019 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1023 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1027 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1031 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1035 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1039 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1043 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1047 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1051 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1055 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1059 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1063 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1067 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1071 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1075 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1079 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1083 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1087 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1091 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1095 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1099 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1103 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1107 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1111 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1115 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1119 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1123 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1127 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1131 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1135 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:30
L:1161 M:284 W: Blank Line not Allowed, <310> field identifier
L:1336 M:284 W: Blank Line not Allowed, <310> field identifier
L:1359 M:284 W: Blank Line not Allowed, <310> field identifier
L:1446 M:284 W: Blank Line not Allowed, <310> field identifier
L:1512 M:284 W: Blank Line not Allowed, <310> field identifier
L:1521 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1525 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1529 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1533 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1537 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1541 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1545 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1549 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
```

VERIFICATION SUMMARY   DATE: 07/05/2001
PATENT APPLICATION: **US/09/297,703A**   TIME: 10:07:43

Input Set : **A:\SEQ.txt**
Output Set: **N:\CRF3\07052001\I297703A.raw**

```
L:1553 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1557 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1561 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1565 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1569 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1573 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1577 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1581 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1585 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1589 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1593 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1597 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1601 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1605 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1609 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1613 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1617 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1621 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1625 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1629 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1633 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1637 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1641 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:35
L:1667 M:284 W: Blank Line not Allowed, <310> field identifier
```